Criterion A: Planning

Scenario:

The Punnett square is a diagram that allows the calculations of ratio of the traits of offspring of two organisms. This is an essential concept of biology using Mendelian genetics. The Punnett square has the possible combinations of the parent's genes on to and left of the diagram crossing into a grid to display the combinations of genes. I wish to make a computer program that allows a user to input any combination of genes and have the results be displayed in a grid and as a list with ratios of offspring.

Rationale:

I wanted to write a program for a Punnett square solver because I had once tutored a friend of mine who was having trouble catching up on days that he had missed. With a bit of trouble explaining this concept to him it would have taken a much shorter time to teach him the concept if I were to have had a program that would allow me to bring up multiple combinations of genes calculating the ratios of offspring through Mendelian genetics. While the time of tutoring my friend is past it would still be a useful piece of software to have for anytime one wants to calculate offspring traits for those biology assignments.

Success Criteria

1. Calculates the ratios of the result offspring of genes inputted into the Punnett square
2. Results are also displayed on a table for every combination of the genes
3. The user is able to change the dominance of the gene to be dominant (upper case) or recessive (lower case)
4. The user is able to change the amount of traits bred from one to three